

تذریق خون و هموویژوولانس در کودکان

بیمارستان کودکان تبریز

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پاییز ۱۴۰۰

- Hemovigilance
- Pediatric transfusion
- SHOT
- Root cause analysis
- Complications of transfusion

تعريف همويثرو لانس

- Surveillance procedures cover the whole transfusion chain, from collection of blood and its components,
- intended to collect and assess information on unexpected or undesirable effects resulting from the therapeutic use of labile blood products and to prevent their occurrence or recurrence.

نکات کلیدی

- Transfusion is very safe with a low risk of viral or other infection.
- the most common pathologic event is a febrile/allergic transfusion reaction.
- Errors in basic procedures have been identified as the most common cause of adverse transfusion incidents (correct identification of the patient is essential).
- Every transfusion should be assessed for appropriateness to avoid unnecessary exposure to blood components.

Table 1

Estimated risk of infection from transfusion in the UK (Public Health England, 2013). The risk estimates in the UK, 2010–2011

Agent	Risk Per Million Donations (95% Confidence Interval)
Hepatitis B	0.76 (0.22–1.61)
Hepatitis C	0.036 (0.015–0.07)
HIV	0.15 (0.09–0.32)

Data from Public Health England. Available at: <http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/BIBD/EpidemiologicalData/bibd020EstfreqofinfecteddonenteringUKbloodsupply/>.

اهداف هموویژولانس

- To identify trends in adverse reactions and events
- To inform transfusion policy
- To target areas for improved practice
- To stimulate research
- To raise awareness of transfusion hazards
- To provide early warning of new complications
- To improve transfusion safety for patients

Table 2
Adverse incidents related to transfusion reported to SHOT

Group	Category
Pathologic incidents	<p>Acute transfusion reactions (allergic, hypotensive, severe febrile)</p> <p>Hemolytic transfusion reactions (immediate or delayed)</p> <p>Transfusion-associated graft vs host disease</p> <p>Transfusion-related acute lung injury (TRALI)</p> <p>Posttransfusion purpura</p> <p>Transfusion-associated circulatory overload</p> <p>Transfusion-associated dyspnea</p> <p>Transfusion-transmitted infection</p> <p>Autologous transfusion or cell salvage incidents</p> <p>Uncategorized complications of transfusion</p>
Incidents resulting from errors	<p>Incorrect blood component transfused (wrong component or without specific requirements such as CMV negative or irradiated)</p> <p>Handling and storage errors (eg, out of cold storage for too long, or transfused over more than 4 h)</p> <p>Incidents where a patient received the right component but where one or more errors were made</p> <p>Inappropriate, unnecessary, or delayed transfusions (eg, transfused for iron deficiency, avoidable use of emergency O RhD negative units)</p> <p>Reporting errors in the administration of anti-D immunoglobulin to women during and after pregnancy</p>
Incidents where no harm was done but from which lessons can be learned	Near miss events

Transfusion and Hemovigilance in Pediatrics

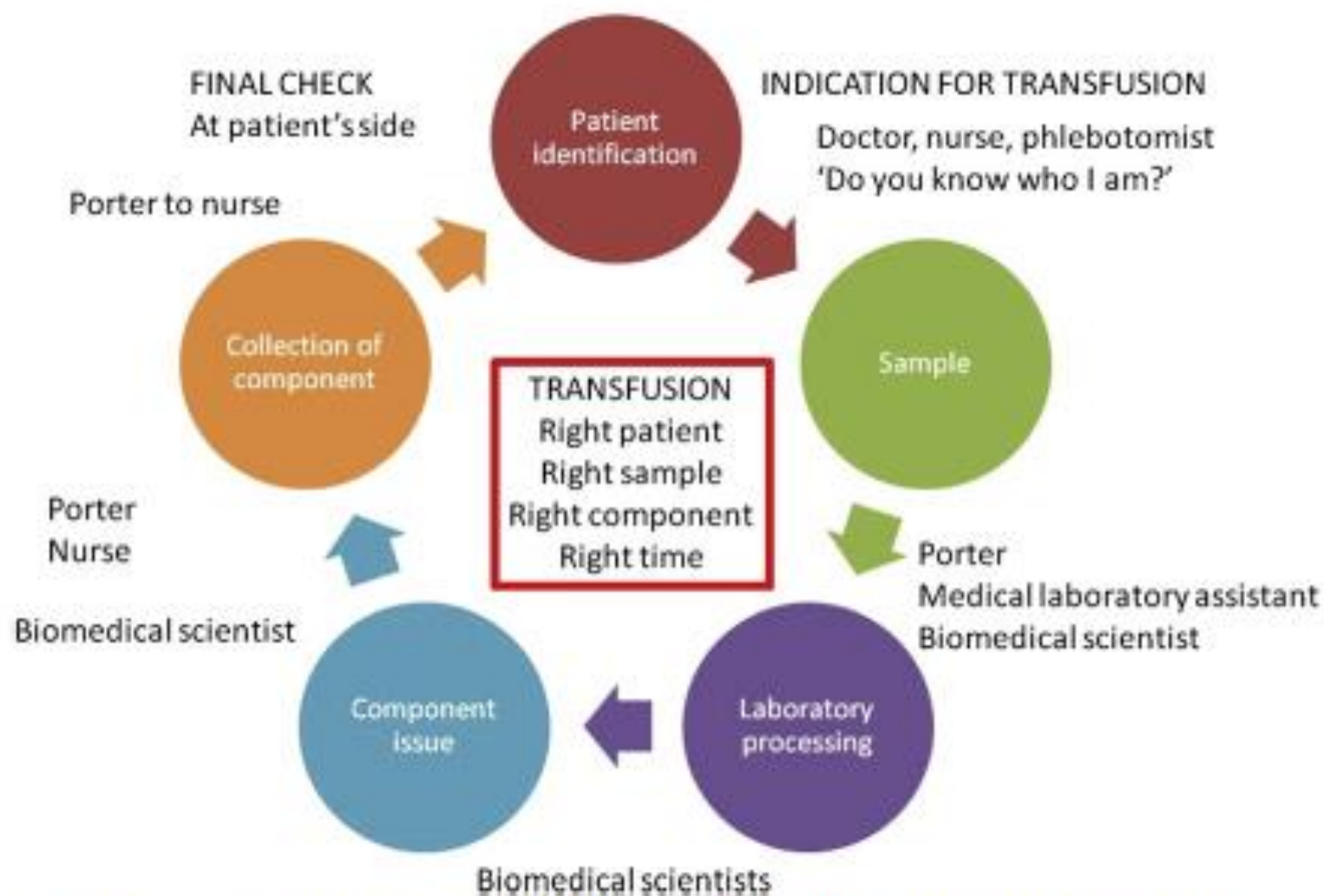


Fig. 1. Critical points in the transfusion process and different personnel involved.

نتایج یک مطالعه در سال ۲۰۱۰ - آمریکا

- جمع آوری اطلاعات عوارض تزریق خون از ۳۵ بیمارستان - گروه هدف کودکان
- شامل یک میلیون مورد ترخیص شده
- عوارض تزریق خون در ۴/۸ درصد موارد ترخیص شده (۵۱۷۲۰ نفر)
- ۱۷/۵ درصد از موارد تزریق خون در گروه نوزادان بود.
- در ۴۹۲ بیمار عوارض تزریق خون بود.
- ۷۹۳ گزارش از عوارض تزریق خون در این ۴۹۲ بیمار ثبت شد.
- یعنی ۱۰/۷ درصد به ازای هر ۱۰۰۰ فرآورده خونی تزریق شده

خطاهای شایع در سیستم هموویژولانس - برگرفته از مطالعات متعدد از سراسر دنیا

• تزریق فراورده‌ی خونی نادرست :

تزریق خون ناسازگار (مهمترین خطا اشتباه در تعیین هویت بیمار است).

تزریق فراورده خونی نادرست برای بیماران خاص (تزریق فراورده درست و بجا به بیمار با شرایط ویژه)

• خطاهای تکنیکی در ذخیره کردن خون و فراورده های خونی

• خطاهای تکنیکی در تهیه فراورده های خونی